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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DESHPANDE, KALYAN K	
ART UNIT	**PAPER NUMBER**
3623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/738,325	NOMOTO ET AL.	
	Examiner	Art Unit	
	Kalyan K. Deshpande	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. The following is a final office action in response to the communications received on December 11, 2006. Claims 1-5 and 7-10 are now pending in this application.

Response to Amendments

2. Applicants' amendments to claims 1 and 2 are acknowledged.

Response to Arguments

3. Applicants arguments submitted December 11, 2006 have been fully considered but are not found persuasive. Due to the extensive amendments to claims 1 and 2, Applicants' arguments of patentability are addressed in the rejections of claims 1 and 2 discussed below.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 1 recites the limitation "putting variables that store respectively a positive estrangement value or negative estrangement value from the target values of the management indices selected as the evaluation objects into the restriction condition" and "multiplying each of the variables that store respectively a positive estrangement value or a negative estrangement value by weighting coefficient corresponding to each of the management indices and flags for

selecting whether an actual numerical value is optimized to be equal to, or greater or less than the target value of the management indices, and composing an objective function for minimizing the sum total of each estrangement value". It is unclear as to what is being claimed with these limitations. For the purposes of examination, Examiner interprets the limitation "putting variables that store respectively a positive estrangement value or negative estrangement value from the target values of the management indices selected as the evaluation objects into the restriction condition" to be adding a value that represents a deviation from a target value into a table of constraints. For the purposes of examination, Examiner interprets the limitation "multiplying each of the variables that store respectively a positive estrangement value or a negative estrangement value by weighting coefficient corresponding to each of the management indices and flags for selecting whether an actual numerical value is optimized to be equal to, or greater or less than the target value of the management indices, and composing an objective function for minimizing the sum total of each estrangement value" to be an optimization of values such that the deviation from a target value is minimized or maximized.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 101 because they are directed towards non-statutory subject matter. Under the statutory requirement of 35 U.S.C. § 101, a claimed invention must produce a useful, concrete, and tangible result. For a

claim to be useful, it must yield a result that is specific, substantial, and credible (MPEP § 2107). A concrete result is one that is substantially repeatable, i.e., it produces substantially the same result over and over again (*In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000)*). In order to be tangible, a claimed invention must set forth a practical application that generates a real-world result, i.e., the claim must be more than a mere abstraction (*Benson, 409 U.S. at 71-72, 175 USPQ at 676-77*). Additionally, a claim may not preempt abstract ideas, laws of nature or natural phenomena nor may a claim preempt every "substantial practical application" of an abstract idea, law of nature or natural phenomena because it would in practical effect be a patent on the judicial exceptions themselves (*Gottschalk v. Benson, 409 U.S. 63, 71-72 (1972)*). (Please refer to the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" for further explanation of the statutory requirement of 35 U.S.C. § 101.).

Claim 1 merely recites the manipulation of an abstract idea and fails to produce a tangible result. Claim 1 recites a production planning system that fails to result in a tangible result and thus is a mere abstract idea that does not produce real-world results. Because the results produced by these steps are not tangible, claim 1 is considered to be directed toward non-statutory subject matter.

Claims 2-5 and 7-10 recite subject matter already addressed by the 35 U.S.C. 101 tangibility rejections of claim 1; therefore the same rejection applies to these claims.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheng et al. (U.S. Patent No. 6138103).

As per claim 1, Cheng et al. teach:

A method of production planning, implemented in a production planning system, in response to a request for production planning from a terminal operated by a user, for putting target values of at least one of a plurality of management indices related to production activity into a restriction condition thereby solving a linear programming problem, and calculating at least one of a production plan, a materials procurement plan, a marketing plan, and a transportation plan by a computer, comprising the steps of:

Receiving inputs from the user that are made of a selection of at least one of the management indices as evaluation objects and the target values of the selected management indices with data of various constants, and putting the target values into a restriction condition as constant data (see column 3 lines 22-60; where input values for specific variables are received and entered into a production planning problem.);

Putting variables that store respectively a positive estrangement value or negative estrangement value from the target values of the management indices selected as the evaluation objects into the restriction condition (see column 3 lines 22-60 and column 4 lines 1-31; where target values for management indices are determined. Estrangement values are the difference between the target values and the actual value. Each of the constraints are evaluated as restriction conditions.);

Multiplying each of the variables that store respectively a positive estrangement value or a negative estrangement value by weighting coefficient corresponding to each of the management indices and flags for selecting whether an actual numerical value is optimized to be equal to, or greater or less than the target value of the management indices, and composing an objective function for minimizing the sum total of each estrangement value (see column 7 lines 10-57; where a linear program problem is set up by multiplying variables.);

Solving a linear programming problem that optimizes the objective function (see column 7 lines 10-57; where the linear programming problem is solved.);

Calculating actual values of all of the management indices for which an evaluation of trade-offs is necessary from optimal solutions of the linear programming problem, and showing the actual values calculated on a display of the terminal (see column 7 lines 10-57; where actual values are calculated. The payoff tables determined an evaluation of the trade-offs to determine optimal solutions.);

Receiving inputs from the user that are made of the adjusted target values of management indices by the user to improve the calculated actual values of the

management indices that cannot be allowed, and putting adjusted target values into the restriction condition for the update (see column 7 lines 10-56; where the user can modify the scenario to determine an optimal solution.);

Repeating the steps of solving a linear programming problem, and calculating actual values of all the management indices for which the evaluation of trade-offs is necessary and showing the actual values calculated on a display of the terminal (see column 6 lines 57-67; where the solving of the linear programming problem is repeated for each scenario.); and

Receiving inputs from the user of a judgment that all the calculated actual values of the management indices can be allowed, and outputting at least one plan in a production plan of the product, the material supply plan, the sales plan, and the transportation plan, according to the final optimal solutions of the linear programming problem (see column 8 lines 1-20 and column 10 lines 7-64; where a user makes the judgment call as to whether the proper optimization has accord and inputs this into the system.).

As per claim 2, Cheng et al. teach:

The method of production planning, as is defined in claim 1, wherein said management index is a combination of at least one or more inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash (see column 3 lines 10-60; where the management index includes values for inventory, rate of operation, and fulfilling demands.).

As per claim 3, Cheng et al. teach:

The method of production planning, as is defined in claim 1, wherein said management indices are the values of said management indices after the addition or the change thereof are displayed on said display of said terminal in a form of a radar chart or a rod graph (see column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart. A bar chart is the same as a rod graph. The payoff table contains the difference between the actual value and the expected value. The payoff table can be represented in a bar chart. A bar chart is the same as a rod graph.).

As per claim 4, Cheng et al. teach:

A method of production planning, as is defined in claim 1, where in production amount and/or material supply amount and/or transportation amount is/are calculated out by repeating steps of:

Setting said target value of each of said management index through an input means (see column 6 lines 57-67 and column 7 lines 10-38; where the where the target values for each process in each scenario is mapped on to the pay-off table. Different target values for each scenario are input in to the payoff table in order to determine optimal values.);

Solving said linear programming problem in a calculation means (see column 4 lines 1-48; where a formulated linear program is solved.);

Displaying a result thereof on said display of said terminal, and again, changing said restriction condition stored in a memory means upon receipt of change in said

target value of each of said management index through said input means (see column 7 lines 10-38, column 10 lines 33-40, and column 11 lines 8-12; where the user can view the pay-off table. The pay-off table has the difference between the maximum and minimum payoff values. Constraints (restriction conditions) are used in developing the linear equation to be solved. The results of the linear equation are displayed in the payoff table.);

Solving said linear programming problem, the restriction condition which is changed, in said calculation means (see column 6 lines 57-67 and column 7 lines 10-38; where the where the target values for each process in each scenario is mapped on to the pay-off table. Different target values for each scenario are input in to the payoff table in order to determine optimal values. Each scenario has different constraints (restriction conditions), thus the input of different scenarios is the same as changing the restriction conditions.); and

Displaying the result thereof on said display of said terminal ((see column 7 lines 10-38 and column 10 lines 33-40; where the user can view the pay-off table. The payoff table displayed optimal values based on constraints (restriction conditions) input for different scenarios (changed restrictions)).

As per claim 5, Cheng et al. teach:

A memory medium, storing program for executing said processes in the method of production planning, as defined in claim 1 (see column 11 lines 8-12; where the system uses a CPU and a memory medium to carry out the optimization.).

As per claim 7, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said linear programming problem is solved by adding at least one management index to said management index, or by changing at least one management index in to another management index, or by changing at least one target value of said management index into another value, thereby calculating out values of the management indices after the addition or the change thereof (see column 6 lines 57-67 and column 7 lines 10-38; where different constraints are input in to the formulated linear equation to represent different scenarios. Each scenario is solved and the results of the optimization are displayed in a payoff table. The payoff table displays target values and actual values based on the optimization. Each management index is the same as a constraint input in to the linear problem.).

As per claim 8, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said values of said management index is displayed on a said display in a form of a radar chart or a rod graph (see column 7 lines 10-38, column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart. The payoff table contains the difference between the actual value and the expected value. The payoff table can be represented in a bar chart. A bar chart is the same as a rod graph.).

As per claim 9, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said management index and the value of said management index after the addition or the change thereof are displayed on a said display of said terminal in a form of a radar

chart or a rod graph (see column 6 lines 57-67, column 7 lines 10-38, column 10 lines 50-67 and figures 7-8; where each scenario and the values and constraints used for each scenario is displayed in the payoff table. As described above, different scenarios use different constraints, which is the same as the addition or change in a management index. The payoff table contains the difference between the actual value and the expected value. The payoff table can be represented in a bar chart. A bar chart is the same as a rod graph.).

As per claim 10, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said target value of said management index and actual value of said management index are displayed on said display of said terminal in a form of a radar chart or a rod graph (see column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart. A bar chart is the same as a rod graph. The payoff table contains the difference between the actual value and the expected value. The payoff table contains the difference between the actual value and the expected value. The payoff table can be represented in a bar chart. A bar chart is the same as a rod graph.).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571)272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kkd

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